Sterile

#8905

Human Interleukin-13 (hIL-13)

Cell Signaling TECHNOLOGY®

Orders ■ 877-616-CELL (2355)
orders@cellsignal.com
Support ■ 877-678-TECH (8324)
info@cellsignal.com
Web ■ www.cellsignal.com

rev. 11/07/17

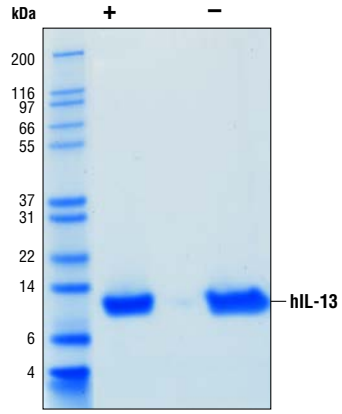
For Research Use Only. Not For Use In Diagnostic Procedures.

Source: Recombinant human IL-13 (hIL-13) Gly21-Asn132 (Accession #AAK53823) was produced in *E. coli* at Cell Signaling Technology.

Molecular Characterization: Recombinant hIL-13 does not have a Met on the amino terminus and has a calculated MW of 12,344. DTT-reduced and non-reduced protein migrate as 12 kDa polypeptides with non-reduced protein having slightly greater mobility due to intramolecular cystines. The expected amino-terminal GPVPP of recombinant hIL-13 was verified by amino acid sequencing.

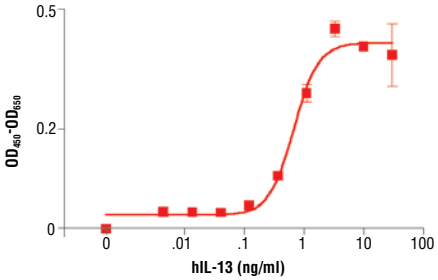
Endotoxin: Less than 0.01 ng endotoxin/1μg hIL-13.

Purity: >98% as determined by SDS-PAGE of 6 μg reduced (+) and non-reduced (-) recombinant hIL-13. All lots are greater than 98% pure.

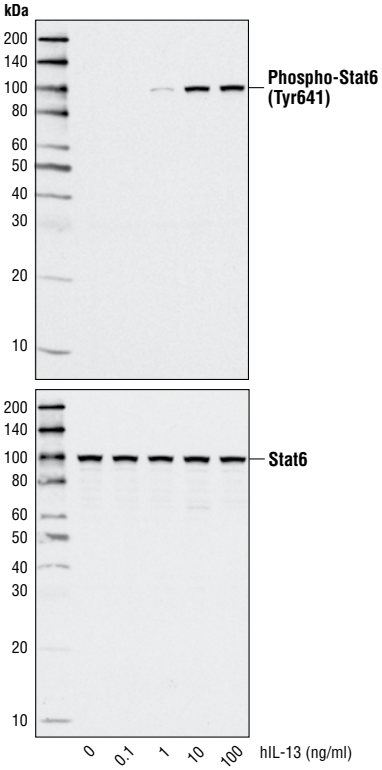


The purity of recombinant hIL-13 was determined by SDS-PAGE of 6 μg reduced (+) and non-reduced (-) recombinant hIL-13 and staining overnight with Coomassie Blue.

Bioactivity: The bioactivity of recombinant hIL-13 was determined in a TF-1 cell proliferation assay. The ED_{50} of each lot is between 0.6–1.2 ng/ml.



The proliferation of TF-1 cells treated with increasing concentrations of hIL-13 was assessed. After 48 hour treatment with hIL-13, cells were incubated with a tetrazolium salt and the OD_{450} - OD_{650} was determined.



Western blot analysis of extracts from TF-1 cells, untreated or treated with hIL-13 for 20 minutes, using Phospho-Stat6 (Tyr641) Antibody #9361 (upper) and Stat6 Antibody #9362 (lower).

Formulation: With carrier: Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.2 containing 20 μg BSA per 1 μg hIL-13.

Carrier free: Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.2.

Reconstitution:
With carrier: Add sterile PBS or PBS containing 1% bovine or human serum albumin or 5-10% FBS to a final hIL-13 concentration of greater than 50 μg/ml. Solubilize for 30 minutes at room temperature with occasional gentle vortexing.

Carrier free: Add sterile PBS or PBS containing protein to minimize absorption of hIL-13 to surfaces. Solubilize for 30 minutes at room temperature with occasional gentle vortexing. Stock hIL-13 should be greater than 50 μg/ml.

Storage: Stable in lyophilized state at 4°C for 1 year after receipt. Sterile stock solutions reconstituted with carrier protein are stable at 4°C for 2 months and at -20°C for 6 months.

Maintain sterility. Storage at -20°C should be in a manual defrost freezer.

Applications: Optimal concentration for the desired application should be determined by the user.

Background: IL-13 is produced by T cells and is important in the TH2 response. IL-13 targets include B cells, eosinophils, fibroblasts, mast cells and macrophages (1-3). IL-13 binds specifically to IL-13Rα1 that complexes with IL-4Rα to form the Type II IL-4R. Jak1 and TYK2 are activated and signal through Stat3 and Stat6 (6). IL-13Rα2 is a different gene product, lacks the intracellular domain, does not complex with IL-4Rα and does not signal (1,6,7). The extracellular domain of IL-13Rα2 is often elevated in diseased states. IL-13 plays key roles in airway hyperresponsiveness (AHR) of allergic asthma (1,4,5) and modulates resistance to parasitic organisms (1).

Background References:

(1) Wynn, T.A. (2003) *Annu Rev Immunol* 21, 425–56.

(2) Katz, Y. et al. (1995) *Clin Exp Immunol* 101, 150–6.

(3) McKenzie, A.N. et al. (1993) *Proc Natl Acad Sci USA* 90, 3735–9.

(4) Wills-Karp, M. et al. (1998) *Science* 282, 2258–61.

(5) Nakajima, H. and Takatsu, K. (2007) *Int Arch Allergy Immunol* 142, 265–73.

(6) Wills-Karp, M. and Finkelman, F.D. (2008) *Sci Signal* 1, pe55.

(7) Mentink-Kane, M.M. et al. (2004) *Proc Natl Acad Sci USA* 101, 586–90.